DUPLICATE

No 1 (Part Two)

METEOROLOGICAL OFFICE
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Meteorological Office

Hydrometeorological Services (Met O 8)

Hydrological Memoranda: No. 1 (Metric Version)

Part II

Averages of Rainfall (millimetres)

for

Scotland and Northern Ireland

1916-1950

Monthly Weather Report and Daily Weather Report Stations

MO Dupe 3a
(2)

G.11824/LG/12/66/200

Introduction

Hydrological Memorandum No. 1 was first published in January 1958. It contained monthly and annual averages in inches for the period 1916-1950 for 282 stations for which data were then being published in the Monthly Weather Report and the Monthly Summary of the Daily Weather Report.

In June 1964 a revised edition was published, this time in two parts, Part I giving averages for stations in England, Wales and the Islands, and Part II averages for stations in Scotland and Northern Ireland. The revised edition included averages for an additional 144 stations, averages for these stations being based in general on at least five years data. Averages were not included for all five year old stations for in a few cases calculations showed some slightly erratic results and in these cases the publication of averages was deferred pending the examination of data for a few more years. The wind swept sites of some airfields result in a noticeable deficiency in catch and the low averages for these sites were omitted as they were from the 1958 edition.

Averages in the revised 1964 edition of the Memorandum were first used in the Monthly Weather Report for January 1965. Averages in the 1958 edition of the Memorandum for stations which ceased prior to June 1964 were omitted from the revised 1964 edition.

From January 1967 the Meteorological Office is publishing all rainfall data in metric units in the Monthly Weather Report. The rainfall averages, in inches, for Monthly Weather Report stations published in June 1964 in Hydrological Memorandum No. 1 (revised). Parts I and II have been converted to millimetres and are now issued as Hydrological Memorandum No. 1 (Metric version), Parts I and II. Some of the monthly averages have been slightly adjusted so that for any station the sum of the twelve monthly averages in millimetres is exactly equal to the annual average in millimetres. Such adjustments involve an element of subjective judgement, but are based on fairly obvious and commonsense rules (e.g. they are applied to months with relatively large average values, in order to minimise the percentage adjustment for individual months) and, at the most, are rarely as much as one per cent.

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The 131 stations for which averages are now published in millimetres fall into three classes, indicated by the letters A, B or C against the station names with the following significance:-

Class A. Averages for 28 stations reproduced here for the sake of completeness and convenience, are given in inches in "Averages of Rainfall for Great Britain and Northern Ireland, 1916-1950". This, the major publication with regard to monthly and annual averages of rainfall, 1916-1950, contains information for 719 stations based on records which were complete or nearly complete for the entire 35-year period. The introduction of this publication (M.O.635) should be consulted for further discussion of these averages.

Class B. Averages for 3 stations have been taken from a supplementary list of stations with averages similar in all respects to those of Class A. The information was excluded from the major publication simply because the areas represented were well covered by averages for the 719 stations in the final selection.

Class C. Averages for 100 stations with incomplete data during the 35-year period, 1916-1950. The data for the different stations were incomplete in the sense of being either non-existent for various years or not satisfactory because of site factors, faulty instruments or defective observational techniques. But in each case, however short the period for which satisfactory data were available, the computed averages represent the whole period 1916-1950, and the final values have been tested to ensure that they are, as far as possible, acceptably representative for the period. It is, of course, possible especially for stations established in relatively recent years, that with the accumulation of further data some adjustment of these averages will become desirable. (The same remark may apply, though with very much reduced force, to a few of the stations in classes A and B for which data were not complete or fully reliable, or where it has become necessary to move the climatological enclosure a short distance).

In this class C, averages for 77 stations were included for the first time in the 1964 edition, 67 for Scotland, 10 for Northern Ireland.

In the main table which follows, the stations have been arranged in the order of the districts used in the Monthly Weather Report. For each station the National Grid Reference has been given. Altitudes are to be found in column 3 of Table III in any Monthly Weather Report.

The final table gives the values in millimetres of average general rainfall, 1916-1950, over England, Wales, Scotland, N. Ireland, Gt. Britain and the United Kingdom. The values published in January 1958 were provisional only, being calculated from the information then available. This set of averages has been based on annual values obtained by planimeter measurements of the maps of average annual rainfall which were not available in 1957. It is considered that they are the best it is possible to provide.

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Meteorological Office, Met O 8b
Bracknell, Berks.

December, 1966

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Average Rainfall, 1916-1950, M.W.R. Stations, (mm)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
SCOTLAND, N.																
Zetland	Lerwick Obs.	HU (411) 454396	C	129	103	91	75	59	57	69	75	100	119	126	129	1132
	Baltasound	HP (412) 609094	A	125	99	94	75	61	65	67	73	103	121	130	128	1141
Orkney	Stenness	HY (310) 299118	C	108	78	67	66	50	52	69	79	96	115	113	113	1006
	Kirkwall	HY (310) 483076	C	108	80	68	66	49	52	67	73	95	115	112	115	1000
Caithness	Wick	ND (39) 366523	A	74	51	46	52	46	52	65	67	74	79	80	75	761
Sutherland	Cape Wrath	NC (29) 260747	C	128	83	73	77	66	76	90	102	117	131	136	124	1203
	Achany	NC (29) 569018	C	117	86	72	77	54	62	82	82	93	119	102	108	1054
	Strathy	NC (29) 830609	C	113	81	71	71	56	69	81	90	103	123	118	112	1088
Ross & Cromarty	Stornoway	NB (19) 465332	C	106	68	58	59	58	65	79	85	95	111	115	103	1002
	Poolewe	NG (18) 861818	C	157	117	100	105	75	97	109	126	144	161	147	159	1597
	Achnashellach	NH (28) 038492	C	226	173	142	142	97	127	146	167	181	232	204	220	2057
	Kinlochewe	NH (28) 024630	C	215	162	138	142	92	120	140	159	179	221	191	211	1970
	Fortrose	NH (28) 749557	B	57	43	38	42	49	46	70	65	56	71	57	52	646
	Tarbatness	NH (28) 947875	C	47	34	29	36	45	41	60	57	52	62	50	45	558
Inverness	Benbecula	NF (08) 784556	C	120	76	64	65	70	74	92	97	107	130	128	117	1140
	Isle of Rhum	NM (17) 402996	C	275	192	146	144	136	161	186	209	237	292	277	265	2520
	Prabost	NG (18) 418501	C	206	144	117	117	95	104	120	139	171	217	201	194	1825
	Duntulm	NG (18) 399718	C	148	100	82	87	73	85	97	112	128	153	143	142	1350

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Average Rainfall, 1916-1950, M.W.R. Stations, (mm) (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Inverness (contd.)	Onich	NN (27) 030635	C	248	176	139	122	103	124	151	167	184	232	200	221	2067
	Cannich	NH (28) 297259	C	147	101	75	79	58	68	84	89	105	134	121	127	1188
	Inverness	NH (28) 668462	C	63	44	35	42	50	46	68	72	61	68	58	53	660
	Glenmore Lodge	NH (28) 986095	C	111	76	62	70	69	65	97	85	88	112	96	85	1016
SCOTLAND, E.																
Nairn	Nairn	NH (28) 862566	C	51	38	35	41	50	48	70	70	59	69	56	48	635
Moray	Forres	NJ (38) 047587	C	47	36	34	39	48	51	72	69	61	69	54	45	625
	Kinloss	NJ (38) 069625	C	46	34	32	40	48	50	71	69	59	68	54	43	614
	Elgin	NJ (38) 226617	C	50	37	35	44	50	54	72	72	67	71	60	47	659
	Lossiemouth	NJ (38) 211701	C	48	36	35	40	47	51	70	68	63	68	58	49	633
	Gordon Castle	NJ (38) 350595	A	60	47	43	47	53	57	78	79	77	80	73	57	751
Aberdeen	Braemar	NO (37) 151912	A	104	68	57	57	66	48	76	78	75	105	97	96	927
	Balmoral	NO (37) 260947	A	88	56	52	57	63	47	77	73	72	94	85	81	845
	Huntly	NJ (38) 529402	C	80	61	58	62	66	64	87	81	86	95	88	75	903
	Fyvie Castle	NJ (38) 764393	A	80	66	58	58	64	56	81	75	79	95	93	75	880
	Craibstone	NJ (38) 872107	A	77	57	52	56	68	52	85	76	77	91	90	80	861
	Dyce	NJ (38) 883125	C	80	60	54	58	71	55	87	79	80	95	93	83	895
	Aberdeen	NJ (38) 915042	A	72	54	51	56	66	53	84	73	75	87	86	79	836
	Udny	NJ (38) 906232	C	87	66	58	63	71	56	91	82	91	99	102	90	956
	Rattray Head	NK (48) 093582	C	63	46	42	46	50	46	68	66	73	76	79	65	720

Average Rainfall, 1916-1950, M.W.R. Stations (mm) (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Kincardine	Fettercairn	NO (37) 669782	C	87	66	60	64	77	60	97	92	88	106	102	91	990
	Stonehaven	NO (37) 873864	C	66	49	44	50	61	48	78	70	71	82	79	70	768
	Muchalls	NO (37) 898919	C	65	48	44	49	60	47	78	67	69	81	78	70	756
Angus	Mylnefield	NO (37) 341299	C	68	50	44	41	58	45	72	78	61	73	69	55	714
	Dundee	NO (37) 435310	C	72	55	50	44	66	51	81	84	69	83	73	61	789
	Glamis Castle	NO (37) 388486	C	87	62	51	47	67	49	79	86	73	90	87	80	858
	Buddon Ness	NO (37) 539309	C	64	47	44	44	58	47	73	74	64	74	67	58	714
	Carnoustie	NO (37) 569344	C	67	49	46	45	61	48	75	76	67	77	69	60	740
	Arbroath	NO (37) 649411	C	58	47	41	39	54	42	67	62	63	74	64	56	667
	Montrose	NO (37) 707617	A	63	48	42	47	57	46	74	71	66	79	72	63	728
Perth	Strathyre	NN (27) 560168	C	249	177	133	123	117	105	135	160	168	236	211	239	2053
	Callander	NN (27) 627077	C	187	126	99	89	91	83	106	129	129	176	157	168	1540
	Ardtalnaig	NN (27) 702394	C	167	113	82	78	79	67	95	99	107	152	126	153	1318
	Dunblane	NN (27) 776011	C	123	81	66	59	67	60	78	91	93	114	102	109	1043
	Pitlochry	NN (27) 945588	C	98	67	50	47	59	44	73	72	70	94	86	94	854
	Faskally	NN (27) 918599	C	103	70	53	52	62	51	75	74	72	99	90	99	900
	Perth	NO (37) 101239	A	77	55	49	44	59	49	81	75	67	84	71	69	780
	Blairgowrie	NO (37) 175438	C	78	57	45	41	55	47	72	73	62	81	74	74	759
	Glenshee Lodge	NO (37) 133684	C	126	87	70	67	81	58	99	105	96	124	119	121	1153

Average Rainfall, 1916-1950, M.W.R. Stations (mm) (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Fife	Kirkcaldy	NT (36) 272907	B	67	49	46	42	61	53	79	83	71	75	72	57	755
	Cupar	NO (37) 388152	C	74	49	47	41	58	49	75	72	65	75	68	63	736
	Leuchars	NO (37) 458208	B	63	43	41	39	56	43	72	68	62	72	65	54	678
	St. Andrews	NO (37) 502171	A	69	47	45	40	58	45	71	71	62	74	70	61	713
Midlothian	Balerno	NT (36) 147651	C	93	63	58	59	70	60	92	94	88	97	86	82	942
	Turnhouse	NT (36) 159739	C	62	42	40	40	55	47	74	79	64	71	60	51	685
	Edinburgh - E. Craigs	NT (36) 183735	C	63	43	41	41	55	49	75	81	66	72	61	52	699
	Davidson's Mains	NT (36) 199757	C	64	47	41	42	57	51	74	80	67	74	62	56	715
	Penicuik	NT (36) 233599	C	93	65	60	56	70	63	92	96	86	98	86	83	948
	Bush House	NT (36) 244636	C	85	60	58	57	69	61	91	96	83	93	81	72	906
	Edinburgh - Blackford Hill	NT (36) 259706	A	62	43	41	41	56	48	77	80	65	72	61	53	699
	Liberton	NT (36) 273705	C	67	46	43	43	58	50	75	80	67	75	64	56	724
	Royal Bot. Gdn.	NT (36) 247756	C	60	43	39	40	56	48	70	75	64	70	60	53	678
E. Lothian	Haddington	NT (36) 513736	C	57	39	41	39	53	45	66	74	57	68	60	51	650
	North Berwick	NT (36) 555852	A	54	38	41	37	54	49	68	78	62	67	59	46	653
	Dunbar	NT (36) 672791	C	51	35	38	35	48	44	60	69	54	61	55	46	596

Average Rainfall, 1916-1950, M.W.R. Stations, (mm), (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Berwick	Marchmont	NT (36) 665633	C	73	55	54	47	56	51	75	83	66	83	76	60	779
	Whitchester	NT (36) 721589	C	77	60	54	51	62	60	85	96	72	90	82	67	856
Peebles	Stanhope Farm	NT (36) 123296	C	131	83	73	72	73	68	91	102	96	123	113	114	1139
	Blyth Bridge	NT (36) 141463	C	97	65	58	59	64	57	81	87	83	94	87	86	918
	West Linton	NT (36) 150520	C	101	69	64	62	71	63	94	100	93	102	93	89	1001
	Glentress	NT (36) 285397	C	83	56	49	49	55	48	63	72	66	83	75	74	773
Selkirk	Bowhill	NT (36) 427273	C	94	63	57	53	62	55	74	83	72	92	83	83	871
Roxburgh	Wauchope	NT (36) 587097	C	90	61	61	55	63	63	81	97	81	92	80	81	905
SCOTLAND, W.																
Argyll	Tiree	NL (07) 999446	C	121	79	66	66	65	71	86	92	105	130	118	118	1117
	Rhuvaal	NR (16) 426792	C	162	108	84	84	82	90	108	120	139	177	161	161	1476
	Colonsay	NR (16) 393966	C	147	101	79	77	76	84	99	111	127	160	144	144	1349
	Achaglachgach	NR (16) 813643	C	174	119	94	95	89	87	112	117	143	188	165	174	1557
	Lephinmore	NR (16) 985926	C	210	140	113	109	98	98	123	141	163	210	186	199	1790
	Glenbranter	NS (26) 109972	C	290	198	156	151	124	131	156	182	211	280	249	266	2394
	Younger Bot. Gdn.	NS (26) 141856	A	289	198	160	148	126	129	155	181	208	276	254	271	2395
Bute	Rothesay	NS (26) 083649	A	152	104	85	83	89	88	109	122	128	169	148	150	1427
	Millport	NS (26) 174544	A	127	82	70	67	73	70	86	95	105	131	118	123	1147
Dunbarton	Helensburgh	NS (26) 303836	A	167	116	93	83	91	86	106	125	123	168	149	156	1493
Stirling	Stirling	NS (26) 793936	A	116	73	59	55	66	57	80	88	87	106	95	96	978
	Falkirk	NS (26) 879803	A	104	74	62	52	66	57	82	87	82	100	91	88	945

Average Rainfall, 1916-1950, M.W.R. Stations (mm), (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Renfrew	Greenock	NS (26) 274757	A	199	129	103	90	91	85	104	118	136	188	167	178	1588
	Paisley	NS (26) 478642	A	132	88	71	63	71	65	83	91	98	130	113	118	1123
	Barrhead	NS (26) 511601	A	134	90	74	67	73	68	88	96	101	128	117	120	1156
	Renfrew	NS (26) 508662	A	118	81	64	59	67	61	79	85	91	119	105	106	1035
Lanark	Thorntonhall	NS (26) 590555	C	131	88	73	68	75	71	90	103	106	129	118	119	1171
	Glasgow, Springburn	NS (26) 610685	C	107	73	63	59	69	66	84	94	91	113	96	97	1012
	Coatbridge	NS (26) 708646	C	96	65	53	51	61	57	77	87	84	97	87	83	898
	Leadhills	NS (26) 888153	C	197	125	105	103	101	96	125	136	141	183	169	179	1660
	Carnwath	NS (26) 980462	C	95	63	51	52	59	54	71	83	83	97	85	84	877
	Camps Res.	NS (26) 997226	C	138	87	73	72	73	69	85	98	98	129	118	124	1164
Ayr	Turnberry	NS (26) 203062	C	118	72	66	59	65	66	84	90	100	121	111	116	1068
	Auchincruive	NS (26) 389236	C	106	68	61	55	64	66	85	88	95	115	98	101	1002
	Prestwick Airport	NS (26) 358269	C	100	64	57	51	60	62	80	82	89	107	91	95	938
	Kilmarnock	NS (26) 421377	C	110	74	66	61	68	88	88	97	99	119	103	103	1056
Dumfries	Dalmacallan	NX (25) 799891	C	171	104	93	83	89	81	112	117	120	153	146	160	1429
	Dunfries	NX (25) 980746	C	121	73	70	62	70	67	98	101	94	117	105	109	1087
	Eskdalemuir Obs.	NT (36) 235026	A	192	117	101	96	96	101	127	140	135	166	152	159	1582
Kirkcudbright	Bargrennan	NX (25) 361789	C	177	109	95	92	88	84	112	124	139	171	157	163	1511
	Palnure	NX (25) 452646	C	158	99	87	76	84	76	102	114	120	154	144	146	1360
	Clatteringshaws	NX (25) 554780	C	256	160	135	121	127	111	150	175	181	227	217	223	2083

Average Rainfall, 1916-1950, M.W.R. Stations (mm), (continued)

Division and County	Station Name	N.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Kirkcudbright (continued)	Glenlee	NX (25) 606805	C	188	118	99	85	93	82	110	122	127	169	162	171	1526
	Dundeugh	NX (25) 598879	C	185	108	96	84	87	84	105	120	132	171	160	168	1500
	Glenlochar Barrage	NX (25) 732646	C	137	85	78	69	78	71	96	110	107	131	126	129	1217
	Threave	NX (25) 751607	C	144	87	82	73	82	76	109	118	114	138	128	131	1282
Wigtown	West Freugh	NX (25) 108544	C	115	69	62	56	64	60	77	85	93	114	107	113	1015
	Penwhirn	NX (25) 127693	C	173	105	96	84	96	94	118	130	144	175	162	170	1547

Averages of Rainfall, 1916-1950, M.W.R. stations, (mm)

Division and County	Station Name	I.G.R.		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
N. IRELAND																
Londonderry	Ballykelly No. 3	IC (24) 624235	C	90	62	53	59	57	58	83	86	82	95	90	94	909
	Moneydig	IC (24) 890170	A	106	72	67	68	70	69	99	101	95	113	107	111	1078
Antrim	Portrush	IC (24) 854411	C	91	63	55	58	59	59	83	86	85	98	94	95	926
	Aldergrove (new site)	IJ (33) 147798	C	96	68	57	61	69	63	90	92	85	101	91	99	972
	Larne	ID (25) 393026	C	115	80	66	68	72	66	87	93	96	115	112	116	1086
Down	Hillsborough	IJ (33) 251577	C	95	66	54	56	64	58	78	83	77	93	84	92	900
	Stormont Castle	IJ (33) 402749	C	102	69	58	59	62	59	83	86	81	97	88	97	941
Armagh	Armagh	IH (23) 878458	A	83	56	50	53	60	61	84	86	74	85	74	79	845
	Loughall	IH (23) 907519	C	77	53	46	48	56	54	76	79	69	80	69	75	782
	Bessbrook	IJ (33) 051284	A	105	73	63	60	69	69	93	98	89	103	94	103	1019
Tyrone	Lislap Forest	IH (23) 485823	C	135	96	82	84	86	85	113	120	116	136	129	137	1319
	Cookstown	IH (23) 816748	C	104	68	59	64	70	67	89	96	89	104	95	101	1006
Fermanagh	Roscor	IG (13) 971551	A	119	83	70	72	75	85	109	120	115	127	125	125	1225
	Castle Archdale	IH (23) 189593	C	102	74	63	63	63	70	92	102	93	108	103	107	1040

Monthly and Annual Average General Rainfall 1916-1950

MONTHS	ENGLAND mm	WALES mm	ISLE OF MAN mm	SCOTLAND mm	NORTHERN IRELAND mm	ENGLAND AND WALES mm	GREAT BRITAIN mm	UNITED KINGDOM mm
January	83	149	140	154	109	92	112	112
February	60	105	87	106	76	66	80	80
March	52	85	79	89	66	57	68	68
April	57	81	73	88	67	60	70	70
May	59	86	79	87	72	63	72	72
June	52	79	77	87	71	55	66	66
July	75	106	86	114	96	79	92	92
August	75	116	105	122	102	81	95	95
September	69	114	115	128	96	76	93	93
October	83	147	141	158	111	92	114	114
November	88	145	132	143	104	95	113	113
December	79	142	136	143	111	88	106	106
YEAR	832	1357	1250	1419	1081	904	1081	1081
AREA (Sq. miles)*	50327	8017	221	30411	5459	58344	88755	94214
Km2	130297	20756	572	78734	14133	151053	229787	243920

* From "Britain, 1964", Central Office of Information (HMSO)

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